REMARKS

Claims 1-24 are currently active.

The Examiner has rejected the claims under 35 U.S.C. 112, first paragraph. The Examiner contends the limitation "with no parameters specified" is not disclosed in the detailed description in such a way as to reasonably convey to one skilled in the relevant art. Applicants respectfully traverse this rejection. As previously explained in the last amendment, this language is supported in the specification on page 1, line 19 of the specification of the above-identified patent application. Furthermore, one skilled in the art knows that UBR traffic has unknown traffic characteristics with no parameters specified. Applicants submit that the application is written for the level of one skilled in the art, and one skilled in the art would know from this limitation what is reasonably conveyed. Accordingly, applicants request that this rejection the removed.

The Examiner has rejected Claims 1-24 as being unpatentable over Asano in view of Ganmukhi. Applicants respectfully traverse this rejection.

Referring to Asano, there is disclosed a system for writing a UBR connection. Asano teaches an ATM cell input from an input port is switched by a switch fabric 301, and

then output to each of the output ports via each of port cell buffers 302. A table storage 304 referenced by a call control processor 303 stores the routing table in a VPG table. If an exchange receives a UBR connection setting request as a setup message from a user, or if the exchange receives a UBR connection release request as a release message from a user, a table search engine 401 determines/releases the route of the UBR connection by referencing each of the tables and the table storage 304. The connection acceptance controlling unit 405 transmits the setup message to the corresponding outgoing port based on the route determined/released by the table search engine 401, and updates the number of already-set UBRs in the VPG table and the table storage 304. An outgoing buffer managing engine 402 monitors the use rate of each of the port cell buffers 302. If the output buffer managing engine 402 detects a congested state in any of the port cell buffers, it reflects the state on the VPG table in the table storage 304. A fault monitoring engine 403 monitors the state of each of the ports. If the fault mounting engine 403 detects a fault state in any of the ports, it reflects the state on the VPG table in the table storage 304. See column 4, lines 25-60.

Asano teaches that upon receiving the UBR connection setting request from a terminal accommodated in the exchange or from an exchange located at a preceding stage, the table search engine 401 in the exchange collates a destination address contained in the request with the address prefixes registered in the respective entries of the routing table which the table storage 304 in the exchange possesses. Thus, the exchange determines the outgoing

VPG corresponding to the entry which bears the most detailed one of the address prefixes contained in the destination address. See column 5, lines 36-48.

Upon receiving the UBR connection release request from a terminal accommodated in the exchange or from an exchange located at a preceding stage, the table search engine 401 in the exchange releases the UBR connection corresponding to the request. The VPI/VCI is released, and the UBR connection releasing request is delivered to the outgoing port to which the connection corresponding to the request belongs. Subsequently, the connection acceptance controlling unit 405 in the exchange subtracts 1 from the value of the number of already-set UBR connections stored in correspondence with the outgoing port to which the connection corresponding to the UBR connection releasing request belongs, within the VPG table possessed by the exchange. See column 6, line 66-column 7, line 5. As a result of the foregoing control processes described, efficient load distribution and utilization of connection resources in the network are improved in the case of routing the UBR connection to the ATM network which is based on the protocol IISP. See column 7, lines 5-12.

As is clear from the above description, and as the Examiner recognizes, Asano does not teach or suggest the limitation of "said traffic having unknown characteristics with no parameters specified including traffic with weighted priorities and traffic without weighted priorities" as found in the claims.

Referring to Ganmukhi, there is disclosed a hierarchical packet scheduling method and apparatus. Ganmukhi teaches a scheduler which can handle the QoS requirements of different sessions fairly and efficiently. See column 2, lines 33-36. Ganmukhi teaches a hierarchical scheduler 10 that comprises an input 15, a first level of scheduler 17, a second level scheduler 80 and a third level scheduler 90 for providing an output 100. The input 15 comprises packets from a plurality of sessions 12, 14, 16, 18, 23 and 24 which have different operating characteristics. The input sessions are grouped into classes according to their quality of service. A first level of schedulers 17 comprises different types of schedulers 20, 30, 40, 50, 60 and 70. The outputs of a group of the first level schedulers 32, 42, 52, 62, and 72 are provided to a second level scheduler 80. The output of second level scheduler 80 is provided to a third level scheduler 90. The third level scheduler 90 also receives the output 22 of one of the first level schedulers 20. The third level scheduler 90 provides an output 100. See column 2, line 65-column 3, line 19. The hierarchical scheduler supports different types of traffic at its input such as voice, video and data. The transmission requirements of voice, data and video are quite different, and each transmission type needs to be handled in a different manner in order to ensure the maximum efficiency and performance within such networks. See column 3, lines 19-27.

Ganmukhi teaches their existence six QoS traffic classes on ATM networks. Two of the six, Ganmukhi teaches are unspecified bit rate + and, unspecified bit rate (UBR).

Ganmukhi teaches that sessions of the UBR + class 23 are similar to those of the ABR class 18 but they do not involve network flow control. Ganmukhi teaches that ABR class 18 has associated with it a guaranteed minimum throughput or a minimum cell rate. In addition, ABR sources adjust their transmission rates from time to time as required by a standard flow control algorithm. See column 4, lines 35-44. Ganmukhi further teaches that the UBR Class 24 of sessions to not have any specific loss, delay, or throughput requirements. See column 4, lines 44 and 46. Thus, it is clear from the teachings of Ganmukhi that only the UBR class 24 involve connections having unknown traffic characteristics with no parameters specified. The UBR + class 23 that Ganmukhi teaches has a guaranteed minimum throughput or minimum cell rates, which thus has parameters specified. Furthermore, Ganmukhi clearly teaches that the UBR + class is a totally different QoS, one of six, than the UBR quality service class. Thus, while UBR + class of QoS and UBR class of QoS share the term UBR, they are in fact distinct from each other and different QoS classes.

The Examiner submits that the combination of Asano in view of Ganmukhi arrives at applicants' claimed invention. Applicants respectfully disagree. Neither Ganmukhi nor Asano teach or suggest to provide any type of weighting for connections having unknown traffic characteristics with no parameters specified. Applicants have amended the claims to more clearly distinguish the claimed invention from the applied art of record. The closest that Ganmukhi comes is two different QoS classes, where one is called UBR + and another is

called UBR. However, Ganmukhi makes it very clear that the UBR + QoS class has parameters and is a distinct class from the UBR class that is taught to have no parameters specified with unknown tariff traffic characteristics.

Furthermore, as patent law dictates, the Examiner cannot take teachings out of the context in which they are found in the references. Asano is completely silent regarding this limitation, and Ganmukhi in the context as it is found, teaches only that there are six distinct QoS classes and again is totally silent about providing weighted priorities to traffic of connections having unknown traffic characteristics with no parameters specified. Just as importantly, Ganmukhi describes a very specific hierarchical architecture that is required to utilize the different classes of sessions that Ganmukhi teaches. The hierarchical scheduler supports different types of traffic at its inputs such as voice, video and data. See column 3, lines 23 and 24. In contrast, Asano has no such hierarchical structure, and in fact is only concerned with one type of class, the UBR class. The Examiner cannot ignore these totally different contexts of each of the teachings in regard to the architecture that is required to use them. Accordingly, applicants' claims are patentable over Asano in view of Ganmukhi.

Additionally, applicants would like to make the point that the references of Ganmukhi and Asano cannot be combined. Besides the Examiner not being able to take teachings out of the context in which they are found, the Examiner cannot pick and choose

elements from the different prior art references, and having found them, conclude that the applicants' claimed invention is arrived at, without there being teachings in the references themselves to combine them. Neither Ganmukhi nor Asano have any teachings are suggestions that would cause one skilled in the art to look to either of these references, without the knowledge or hindsight afforded from reviewing applicants' specification and claimed invention, and arrive at applicants' claimed invention. Asano is concerned with routing a UBR connection so that there is effective load distribution and utilization of resources. Ganmukhi is concerned with a scheduler that can be implemented in a cost-effective manner and handle the QoS requirements of different sessions fairly and efficiently. There is no teaching in either of these references for a need that the other somehow meets or a reason to cause them to be combined.

In fact, applicants are at somewhat of a loss as to how they would be combined. The architectures of the systems themselves are all very different, and the elements identified in either of these references are very different, and used for different purposes. As explained above, Ganmukhi requires a very specific type of hierarchical scheduler in order to be able to support voice, video and data. Ganmukhi teaches that there are three different levels of schedulers, a first level of schedulers 17, a second level scheduler 80 and a third level scheduler 90. Each of the first level of schedulers are taught to support different classes of sessions. This specific architecture is the way Ganmukhi teaches how to be able to deal with

all distinct classes. In contrast, Asano has no such hierarchical scheduler structure to be able to accommodate defectively the different classes. It is respectfully submitted the Examiner is incorrect in simply taking the UBR + class from the teachings of Ganmukhi and saying that it could be used in the teachings of Asano. There is nothing in Asano that would allow an effective operation of more than one class of connection. If the Examiner were to follow the application of such a teaching by Ganmukhi into the teachings of Asano, then the Examiner would have to take the entire hierarchical structure taught by Ganmukhi and try to somehow or other combine it with the teachings of Asano so the different classes would have some basis for being effectively operated upon by Asano. However, Asano has no place by which such a hierarchical scheduler structure could be utilized or transformed, without having to completely redesign and develop a new architecture for Asano. Applicants submit that no one skilled in the art would look to the teachings of Ganmukhi for different classes of UBR, and then combine them into the teachings of Asano, because the architecture taught by Asano has no way to support all the different classes.

The Examiner seems to be ignoring all these details, and again, the context in which the various teachings are found, and simply saying that since Asano teaches a technique for handling UBR, and Ganmukhi happens to identify two different UBR QoS classes, (forgetting about the fact that there are actually six different QoS classes taught by Ganmukhi, and they are manipulated by the architecture in a very specific way that is distinct from the

operation of the architecture of Asano), it is obvious to combine the various teachings as the examiner interprets them. Even though from an engineering standpoint, it would require significant research and design effort to try to figure out how such a system would be formed and operate. For this reason too, applicants' claims are patentable over the applied art of record.

In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 1-24, now in this application be allowed.

Respectfully submitted,

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